

CLAIMS

1. A container closure assembly, comprising a container mouth (12) and a closure (14); therefor, the closure comprising engagement means (20, 22) for interlocking with
5 a formation around the mouth to retain the closure on the mouth, and a band (30) for bracing the engagement means (20, 22) to lock it in an engaged condition by resisting outward movement of the engagement means (20, 22) when the band (30) is in a bracing position; characterised in that:

in an operative position of the closure (14) on the container mouth and prior to
10 first time the closure is removed, the band (30) is integrally coupled to the closure by a plurality of integral frangible connections (34), the band (30) being movable relative to the engagement means out of its bracing position, and the frangible connections (34) being breakable sequentially when the band is moved out of its bracing position for the first time.

15 2. A container closure assembly, comprising a container mouth (12) and a closure (14) therefor, the closure comprising engagement means (20, 22) for interlocking with a formation around the mouth to retain the closure on the mouth, and a band (30) for bracing the engagement means (20, 22) to lock it in an engaged
20 condition by resisting outward movement of the engagement means (20, 22) when the band (30) is in a bracing position; characterised in that:

the band (30) is mounted for hinged movement out of its bracing position relative to the engagement means, the band (30) remaining intact as it is moved out of
25 said bracing position.

3. A container closure assembly, comprising a container mouth (12) and a closure (14) therefor, the closure comprising engagement means (20, 22) for interlocking with a formation around the mouth to retain the closure on the mouth, and a band (30) for bracing the engagement means to lock it in an engaged condition
30 by resisting outward movement of the engagement means (20, 22) when the band (30) is in a bracing position; characterised in that:

the band (30) is movable relative to the engagement means out of its bracing position and, upon such movement, the band (30) remains intact and releases the

bracing effect progressively around at least a portion of the periphery of the closure (14).

4. A container closure assembly, comprising a container mouth (12) and a closure (14) therefor, the closure comprising engagement means (20, 22) for interlocking with a formation around the mouth to retain the closure on the mouth, and a band (30) for bracing the engagement means to lock it in an engaged condition by resisting outward movement of the engagement means (20, 22) when the band (30) is in a bracing position; characterised by:
- 10 means (70) for producing at least one mechanical interlock between the band (30) and the engagement means (20, 22) in a circumferential direction, to restrict movement of the band (30) relative to the engagement means (20, 22) in the circumferential direction.
- 15 5. A container closure assembly, comprising a container mouth (12) and a closure (14) therefor, the closure comprising engagement means (20, 22) for interlocking with a formation around the mouth to retain the closure on the mouth, and a band (30) for bracing the engagement means to lock it in an engaged condition by resisting outward movement of the engagement means (20, 22) when the band (30) is in a bracing position; characterised in that:
- 20 the band is movable intact and relative to the engagement means out of the bracing position, and in that the mouth (12) has a larger configuration than the engagement means (20, 22) of the closure in an unstressed condition of the engagement means (20, 22), such that when the closure (14) is in its operative position on the container mouth (12), the engagement means (20, 22) is stressed outwardly and the band (30) is maintained in a state of static tension, said tension increasing the bracing effect of the band (30) on the engagement means (20, 22).
- 25 6. An assembly according to any of claims 2 to 5, wherein in an operative position of the closure on the container mouth and prior to the first time the closure is removed, the band (30) is integrally coupled to the closure by a plurality of integral frangible connections (34).
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7. An assembly according to claim 1 or 6, wherein the frangible connections (34) are collapsible without shearing, to permit limited outward deformation of the engagement means (20, 22).

5 8. An assembly according to claim 1, 2, 3, 4 or any claim dependent thereon, wherein the container has a mouth (12) having a larger configuration than the engagement means (20, 22) of the closure in an unstressed condition of the engagement means, such that when the closure is fitted to the container, the engagement means (20, 22) and the band (30) are stressed.

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9. An assembly according to claim any preceding claim, further comprising a plurality of ridges (35) on a surface of the closure facing the band (30).

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10. An assembly according to any preceding claim wherein the container mouth (12) has a lateral dimension of at least about 5 cm.

11. An assembly according to any preceding claim, wherein the container and closure are able to withstand an internal pressure of at least 60 psi.

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12. An assembly according to claim 1, 2, 3, 5 or any claim dependent thereon, further comprising means (70) for producing at least one mechanical interlock between the bracing band (30) and the engagement means (20, 22) for communicating tension in the bracing band (30) to the engagement means (20, 22).

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13. An assembly according to any preceding claim, wherein the engagement means (20) is segmented.

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14. An assembly according to any preceding claim, wherein the engagement means (20, 22) comprises one or more lugs (20) which engage one or more undercuts (11) adjacent to the container mouth.

15. An assembly according to claim 14, wherein the undercut comprises a rim (11) around the container mouth.

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16. An assembly according to claim 14 or 15, wherein at least one said lug (20) comprises a locking projection (22), the locking projection comprising a lead-in ramp surface (26), and an abutment surface (28).
- 5 17. An assembly according to claim 16, wherein the abutment surface (28) is inclined at an angle whose magnitude is less than that of the inclination of the ramp surface (26).
- 10 18. An assembly according to any preceding claim, wherein the closure (14) is of plastics.
19. An assembly according to any preceding claim, wherein the closure (14) is refittable to the container mouth (12) after it has been removed for the first time.
- 15 20. A container comprising an assembly as defined in any preceding claim.
21. A press-fit, lift-off container closure (14) comprising an upper wall(16), a side wall or wall segment (20) depending from the upper wall, engagement means (22) on a radially inner face of the side wall or wall segment (20), and a bracing band (30) for
20 bracing the side wall or wall segment (20) to restrain radial outward movement thereof; characterised in that:
the bracing band (30) is integral with the closure and is joined thereto by a plurality of spaced apart frangible connections (34), and in that the bracing band (30) is mounted radially outside said wall or wall segment (20) carrying the engagement
25 means (22).
22. A closure according to claim 21, wherein the band (30) is mounted for hinged movement relative to the closure upon shearing of the frangible connections (34).
- 30 23. A closure according to claim 21 or 22, wherein the frangible connections (34) are collapsible without shearing to permit limited outward deformation of the wall or wall segment (20).

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24. A closure according to claim 21, 22 or 23, further comprising a plurality of ridges (35) on a surface of the closure facing the bracing band (30).

25. A closure according to any of claims 21 to 24, further comprising means (70)
5 for forming at least one mechanical interlock between the bracing band (30) and the wall or wall segment (20) for communicating tension in the bracing band (30) to the .

26. A closure according to any of claims 21 to 25 comprising a plurality of depending side wall (20) segments.

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